

powers was a sad loss to his friends and to the profession which he adorned; to their former president, Sir William Gilliatt, who had cared for her daughter, the Queen, when her children were born; and to Sir Henry Simpson, whom she and thousands of his patients remembered with affectionate gratitude.

The new building with its fine museum, library, and lecture hall would do much to improve the standing of and knowledge in this particular branch of medicine, and it would be a meeting-ground in the heart of London for obstetricians and gynaecologists from every part of the Commonwealth. The Queen Mother then supervised the lowering of the foundation-stone into position, tapped it, and declared the stone well, and truly laid.

Following the ceremonial laying, the honorary secretary of the College, Mr. IAN M. JACKSON, read out a list of the contents of the casket placed under the foundation-stone. Among the items were a copy of the Articles of Association of September 12, 1929; a copy of the Royal Charter of 1947 of King George VI; a copy of the first College seal; the annual report of the College for 1956; and a copy of *The Times*.

The New Building

The new building will stand on the site of the former Sussex Lodge, bounded by Sussex Place, the Outer Circle, Kent Passage, and Park Road. It is L-shaped in plan, facing the Outer Circle and Lake, and will consist of a four-storied administrative block housing the College offices, members' rooms, council chamber, committee rooms, etc., with a flat for the President and other accommodation on the fourth floor. The assembly hall block will consist of a large entrance hall and staircase leading to the assembly hall at first-floor level. The library and museum will be on the ground floor with the pathological laboratories and research rooms above on the Park Road side of the building.

The exterior has been carefully designed to harmonize with the Nash buildings of the neighbourhood, and will be carried out in hand-made golden-brown bricks with Portland stone dressings, cornices, etc., and copper roofs. Internally the finish will be simple, with flush hardwood doors and floors. Many rooms and all corridors are to be treated acoustically to reduce noise. There will be no visible means of heating, a comprehensive system of panel heating being used. Partial plenum heating will be applied to the Council chamber, assembly hall, and main committee room. None of the fully grown trees, of which there are many on the site, will be felled as a result of the new building.

Annual Dinner

The College's annual dinner was held on the same evening, at Grosvenor House, where Professor Claye presided over a company of more than 400. The MARQUESS of SALISBURY proposed the toast of the College, to which the PRESIDENT and Professor BRUCE T. MAYES, chairman of the Australian Regional Council of the College, replied. The latter conveyed messages of greeting from the chairmen of the College's Canadian, New Zealand, and South African Regional Councils. Professor W. C. W. NIXON proposed the toast of the guests, and Mr. RICHARD THOMPSON, M.P., Parliamentary Secretary to the Ministry of Health, who was deputizing for the Minister of Health, replied.

"According to the *Madras Mail* of July 17, the Government of Madras is to subsidize private medical practitioners for performing the operation of vasectomy. This procedure has long been advocated by the Family Planning Board of Madras, and from replies to a questionnaire the Government has learnt that there is a genuine demand for it. The subsidy to be paid will be Rs.25 per operation carried out on persons earning Rs.200 (£15; \$42) a month or less. The scheme will be in force for one year and the total expenditure on subsidies has been fixed at Rs.25,000 (£1,875; \$5,250)."—*News of Population and Birth Control*, November, 1957.

ACCIDENT AT WINDSCALE

The promised White Paper on the Windscale Accident* was published on November 8. It consists of six annexes preceded by a short memorandum by the Prime Minister. The whole report runs to 26 pages. The first two annexes have been written by the Atomic Energy Authority's committee of inquiry. The first is a non-technical, "security" version of the committee's fuller report to the Authority on the cause of the accident—too early and too rapid heating during routine annealing of the graphite leading to the failure and oxidation of one or more uranium (or possibly lithium-magnesium) fuel cartridges—and the measures taken to deal with the accident. The second is the committee's report in its entirety on the measures taken to deal with the consequences of the accident. Then, as the third annex, comes a report on the health and safety aspects, prepared by a committee appointed for the purpose by the Medical Research Council.

Conclusions of M.R.C. Committee

The conclusions of the Medical Research Council's committee are as follows:

"(i) The information available is adequate to allow an assessment to be made of the possible risks to human health and safety arising from the recent accident at Windscale.

"(ii) After examining the various possibilities, we are satisfied that it is in the highest degree unlikely that any harm has been done to the health of anybody, whether a worker in the Windscale plant or a member of the general public.

"(iii) The highest levels of radiostrontium in locally produced milk are well below those at which an appreciable hazard would arise even if such milk were consumed over a period of years: but the radiostrontium levels in some samples of grass from certain occasional pastures indicate that a watch should be kept on the milk in such places to see that contamination does not, in the future, show signs of approaching significant levels.

"(iv) Certain weaknesses in organization were apparent after the event, notably the delay between recognition of the existence of an accident which might lead to the emission of radioactive substances over the surrounding country and the institution of an extensive and rapid milk-sampling programme throughout the area of possible risk. Further, certain gaps in our scientific knowledge were revealed, and require early attention.

"(v) Despite these shortcomings the measures adopted by those responsible for the health and safety of the population in and around Windscale were essentially right, and, once these were brought fully into play, they were applied decisively and were adequate to prevent ill effects."

Remainder of the Report

Annex IV is a memorandum by Sir Edwin Plowden, chairman of the Atomic Energy Authority, in which he states that the Authority accepts full responsibility for the accident, and that it considers the root cause to have been partly "inadequacies of the instrumentation" provided at Windscale and partly errors of judgment on the part of the staff. Annex V is a note by the Atomic Energy Authority to relieve anxiety about the possibility of a similar accident occurring at Calder Hall or the nuclear power stations being built for making electricity. The final annex gives the terms of reference and composition of three committees under Sir Alexander Fleck's chairmanship, which the Prime Minister has appointed to recommend measures to remedy the deficiencies disclosed in the report. One of these committees is to review "the organization within the Authority

**Accident at Windscale No. 1 Pile on 10th October, 1957*, Cmd. 302, 1957. H.M.S.O. Price 1s. 3d. net.

†Sir Harold Himsworth, F.R.S. (*chairman*), Sir Ernest Rock Carling, Professor A. Bradford Hill, F.R.S., Dr J. F. Loutit, Professor W. V. Mayneord, Professor J. S. Mitchell, F.R.S., Dr E. E. Pochin, Professor B. W. Windeyer, Dr B. S. Lush (*secretary*), with Sir William Slater, F.R.S., secretary of the Agricultural Research Council, as an observer.

as a whole for control of health and safety." Its members, besides Sir Alexander Fleck, are Mr. C. F. Kearton, Sir William Penney, Sir George Barnett (Chief Inspector of Factories), and Dr. J. S. Carter, Ph.D. (Chief Alkali Inspector).

BRITISH ORTHOPAEDIC ASSOCIATION

AUTUMN MEETING

The autumn meeting of the British Orthopaedic Association was held in London from October 3 to 5 under the presidency of Mr. PHILIP WILES. It comprised an instructional course of four lectures, a symposium on bone, and a considerable number of short papers. Mr. NORMAN CAPENER, of Exeter, was installed as the new president. We report here two papers with especially wide implications, the first on the genetic factor in orthopaedics, the second on radioactive isotopes and bone.

Genetics and Orthopaedics

Dr. C. O. CARTER (M.R.C. clinical genetics research unit) said that orthopaedic conditions could be divided into three groups: (1) those where an abnormal genetic constitution, often a single gene mutation, was solely responsible, (2) those due only to environment, and (3) those, such as congenital dislocation of the hip, where both factors played a part. Studies of monozygous twins had proved most helpful in differentiating these groups. With the first group the twins were always concordantly affected; with the second no more often than dizygous pairs; with the third they showed notably greater concordance than dizygous pairs—for example, in congenital talipes equino-varus there was a 23% concordance in monozygous twins but only 2% in dizygous twins. Environmental diseases were becoming less common with improved public health, while largely genetic ones tended to increase in frequency. This had resulted not only from the increase in mutations due to radiation but also from better medicine leading to greater survival and hence a higher reproductive rate among those with such mutants. Herein lay a danger unless counteracted by advice to such parents on the risks to their children.

Mutations might be dominant or recessive. Family histories showed that achondroplasia and dysplasia epiphysialis multiplex were the result of dominant mutant genes, whereas Morquio's form of osteochondrodystrophy was usually dependent on a recessive mutant gene. With dominant genes prognosis was straightforward; sporadic cases would be due to fresh mutations, and later brothers and sisters were most unlikely to be affected. But the risk for the children of those affected (if they lived to reproduce), would be 50%—that is, 1 in 2. Homozygotes for recessive mutations could arise only if two clinically healthy people, each of whom was heterozygous for the same mutant gene, married and had children. There was then a 1 in 4 risk of any child being homozygous and clinically affected, a 2 in 4 risk that any child would be a carrier but clinically normal, and a 1 in 4 risk that the child would not have the recessive mutant gene at all. It followed that, once an affected child had been born, the risk for later children was 1 in 4; but the normal brothers and sisters and also the affected child, if surviving, would not have affected children unless they were unlucky enough to marry a carrier. The main hope for prevention lay in finding ways of detecting clinically normal heterozygotes, and warning them of the risks to their children if they married each other. This was now being done in Italy, for example, to reduce the frequency of the lethal blood disorder known as Cooley's anaemia.

Sex-linked Muscular Dystrophies

A special class of recessive mutations was that of the X chromosomes where heterozygous females having two X chromosomes were clinically normal, but males with the mutation on their single X chromosome were not protected by a normal gene on the Y chromosome and were affected.

Most childhood muscular dystrophies were due to such sex-linked recessive mutations. This was true of all those where the victim was severely affected and was off his feet by the age of 11 years. These patients were all boys, and their families showed a sex-linked recessive pattern of inheritance. The milder but otherwise similar cases were as often girls as boys, and were mostly due to an ordinary, not sex-linked, recessive mutant gene.

Dr. Carter mentioned spina bifida cystica, talipes equinovarus, and congenital dislocation of the hip as examples of mixed genetic and environmental origin. In congenital dislocation of the hip 6–7% of the sisters of affected children were also affected and about the same proportion of daughters; brothers and sons less often. This might well be due to a dominant mutant gene, only one-fifth to one-tenth of the females with the gene being clinically affected, and even fewer of the boys with the gene. The environmental factors concerned were not fully known. The condition was commoner after breech birth, and Record and Edwards in Birmingham had shown it to be commoner also in firstborn and in babies born in winter. To reduce the incidence of such affections, much further work was needed to pick out those with the genetic constitution for the disorder but clinically unaffected, and to identify the environmental factors which lead to the clinical manifestation of the genetic constitution.

Radioactive Isotopes and Bone

Dame JANET VAUGHAN (Oxford) said that radioactive elements from "fall-out" which entered the body were concentrated in the skeleton, where they manifested themselves by producing anaemia, changes in the bones themselves, and neoplasms. The vital factor was the radiation dosage; once the element was within the bone the important factors were the character and the energy of the radiation, the half-life of the element, and the nature of its decay products. All investigations had been complicated by the large number of variables. There were marked differences in species resistance, and other variables included the amount ingested, the route of ingestion, the diet at the time, the duration of ingestion, the site of deposition, and the pattern of subsequent bone growth. In describing experiments with radiostromium in the rabbit, she showed how the age of the rabbit affected the pattern of deposition, which depended on the site and rate of bone growth at the time; from the point of view of tumour formation it was the local concentration of a radioactive element that was dangerous. Work on these extremely complex problems was still at a very early stage, and it was rash to assume that the behaviour of one radioactive element would prove similar to that of any other.

Motoring News

ENGINE OILS

There can be few more confusing things for the present-day motorist than the choice of oils. Publicity stunts and advertisements are for ever proclaiming new products with superb additives which do this, that, and the next thing for your engine. That there are so many different varieties of oil is in itself confusing, but, to make matters more difficult, each separate company markets its own particular brand under a different name. Many of us are content to stick to one or perhaps two types of oil year in, year out, regardless of the kind of car, simply because it saves trouble or because such and such an oil is specified in the instruction book. Since the makers may have been paid to recommend particular brands in this instruction book, there is no harm done in looking at other varieties with different characteristics.

The reason for the introduction of some of the new oils is that the old ones were not able to stand up to the demands